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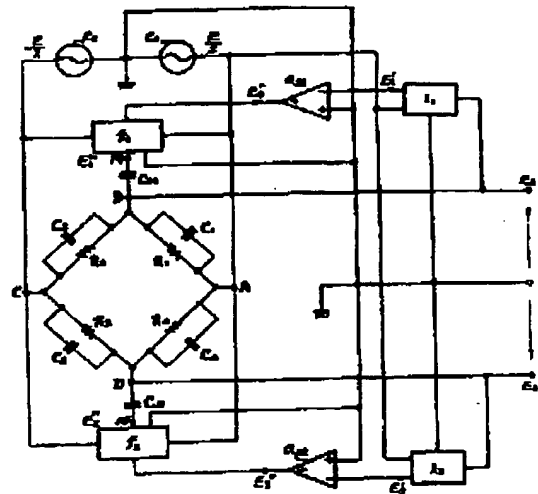
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TITLE : MEASURING DEVICE OF BRIDGE



**ABSTRACT :** PURPOSE: To unnecessitate initial adjustment of balance by detecting the Imaginary-number component signal of each voltage generated between each measuring end of the bridge and reference potential and by making the signal fed back negatively to the measuring end to eliminate the influence of unbalanced capacity.

**CONSTITUTION:** The resistance brodge is formed by resistances  $R_1$ – $R_4$  and capacities  $C_1$ – $C_4$  exist in parallel to these resistance. In a net of four terminals composed of points A, B, C and M, the imaginary-number component of the voltage  $E_1$  at the point B is detected by an imaginary-number part detector  $I_1$ , the output voltage  $E_1'$  thereof is amplified by an error amplifier  $a_{21}$ . further by the output voltage  $E_1''$  of the amplifier is controlled the output voltage  $E_1'''$  of an amplitude controller  $f_1$  and the voltage  $E_1'''$  is fed back to one end B of the bridge through the intermediary of a capacity  $C_M$ . By providing a negative feedback loop in such a constitution, the existence of the capacity is eliminated even when the unbalanced capacity exists at each side of the bridge in parallel with the resistance, whereby the initial adjustment of balance can be unnecessitated.

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